

ABSTRACT

Boron-low Nd-Fe-B permanent magnets that have high coercive forces are discussed. To this end, concentrations meet the following requirements:

$$26.9 \text{ wt.\%} \leq [\text{SE}]_{\text{eff}} \leq 33 \text{ wt.\%};$$

$$2.185 - 0.0442 [\text{SE}]_{\text{eff}} \leq [\text{B}]_{\text{eff}} \leq 1.363 - 1.0136 [\text{SE}]_{\text{eff}} [\text{Dy} + \text{Tb} + \text{Ho}] \leq 50\% [\text{SE}]_{\text{eff}};$$

$$0.5 \text{ wt.\%} \leq [\text{Co}] \leq 5 \text{ wt.\%};$$

$$0.05 \text{ wt.\%} \leq [\text{Cu}] \leq 0.3 \text{ wt.\%};$$

$$0.05 \text{ wt.\%} \leq [\text{Ga}] \leq 0.35 \text{ wt.\%}; \text{ and}$$

$$0.02 \text{ wt.\%} \leq [\text{Al}] \leq 0.3 \text{ wt.\%}.$$